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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,082	08/29/2001	Gregory L. Norden	7784-000203	6170

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EXAMINER	
OSBORNE, LUKE R	

ART UNIT	PAPER NUMBER
2163	

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/942,082	NORDEN ET AL.	
	Examiner	Art Unit	
	Luke Osborne	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/29/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Abstract

1. The abstract of the disclosure is objected to for minor informalities. The last sentence of the abstract is incomplete. Correction is required for clarity purposes. See MPEP § 608.01(b).

Claim Objections

2. Applicant is advised that should claim 3 be found allowable, claim 27 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim 3 and claim 27 refer to the same claim limitations and are found advisable as stated (supra).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 11-17, 19, 27-33 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,253,184 to Kleinschnitz, hereafter "Kleinschnitz".

Regarding claim 1 Kleinschnitz teaches a computer-implemented method for servicing an aircraft [network]. See figures 1, 7 and the corresponding portions of Kleinschnitz's specification for this disclosure. In particular, Kleinschnitz teaches "A computer-implemented method for servicing an aircraft [network], the method comprising the steps of:

- providing a knowledge base of reusable solutions for the aircraft [Figure 1 illustrates in block diagram form the hierarchical distributed knowledge based machine initiated maintenance system (Figure 1, item 1: Central Expert System)];
- receiving an incoming message, where the incoming message characterizes a technical issue relating to the aircraft [The failure report provides concise summary failure data from the original occurrence as well as information indicative of each recovery step taken during an attempt for customer equipment 40 to recover from the failure (Column 6, lines 60-64)]; and
- generating an outgoing message in accordance with one or more of the reusable solutions in the knowledge base in response to the incoming message such that the outgoing message addresses the technical issue

[Where one or more Suspect FRUs are indicated in the MIM, the craftsperson invokes an interactive dialogue called Guided FRU Replacement 307, or GFR. The craftsperson uses GFR 307 to select 409 the composite failure event identity for which the MIM was sent, and selects the

FRU to be replaced from the SFL that is continued in the composite failure event. (Column 11, line 5-22)].

Regarding claim 2, Kleinschnitz teaches the method of claim 1 "further including the steps of:

- importing a first set of aircraft data from the incoming message into one or more search roles of an inquiry;
- locating a relevant reusable solution in accordance with the inquiry; and
- exporting data from one or more solution roles of the relevant reusable solution into a second set of aircraft data in the outgoing message

[The above described problems are solved and a technical advance achieved in the field by the failure tracking system of the present invention which functions in a machine initiated maintenance environment to provide efficient and timely maintenance of customer systems. The knowledge based system provides the failure evaluation function through the use of an expert or knowledge based system that is installed in the customer system. The knowledge based system makes use of a set of rules and hypotheses to operate on performance and failure data collected from various points within the customer system to monitor the operational integrity of the customer system. This knowledge based system identifies the occurrence of a failure within the customer system and functions using its rules, hypotheses and collected performance and failure data to isolate the source of the error in the customer system and, whenever possible, "fence" or isolate the failed field replaceable unit that has caused the error.]" as claimed.

Regarding claim 3, Kleinschnitz teaches the method of claim 2 "further including the steps of:

- searching the knowledge base in accordance with the inquiry

[At that point a transition occurs to permit the embedded expert system process to perform isolation based on information relating to the failure domain. A composite failure event (CFE) is associated with each emerging failure domain and identifies the states that the failure domain has passed through and summarizes what is currently known about the failure domain (Column 6, lines 30-50)];

– determining that none of the reusable solutions addresses the technical issue [In some cases, however, the local expert system 11 is unable to identify the cause of the problem with any certainty (Column 11, lines 30-39)];

– verifying that an individual has authoring access to the knowledge base; receiving authoring input from the individual [Otherwise it alerts central engineering expertise that human assistance is required (Column 11, lines 46-53)]; and

– generating a new reusable solution based on the authoring input [When the problem resolution is discovered it is conveyed in the form of new rules and hypotheses to the technical expert system 63 by the engineer (Column 11, lines 54-59)]" as claimed

Regarding claim 11, Kleinschnitz teaches the method of claim 2 "further including the step of importing a portion of the first set of aircraft data into a goal field of the inquiry such that the goal field defines a goal of the technical issue [In this description the term failure domain is used and this term denotes the boundaries within which a given failure operates. The failure domain includes a number of aspects: physical, temporal, severity, persistence, threshold, etc.(Column 6, lines 31-34)]" as claimed.

Regarding claim 12, Kleinschnitz teaches the method of claim 2 "further including the step of importing a portion of the first set of aircraft data into a fact field of the inquiry such that the fact field defines a fact of the technical issue [In this description the term

failure domain is used and this term denotes the boundaries within which a given failure operates. The failure domain includes a number of aspects: physical, temporal, severity, persistence, threshold, etc.(Column 6, lines 31-34)]" as claimed.

Regarding claim 13, Kleinschnitz teaches the method of claim 2 "further including the step of importing a portion of the first set of aircraft data into a symptom field of the inquiry such that the symptom field defines a symptom of the technical issue [In this description the term failure domain is used and this term denotes the boundaries within which a given failure operates. The failure domain includes a number of aspects: physical, temporal, severity, persistence, threshold, etc.(Column 6, lines 31-34)]" as claimed.

Regarding claim 14, Kleinschnitz teaches the method of claim 2 "further including the step of importing a portion of the first set of aircraft data into a change field of the inquiry such that the change field defines a change of the technical issue [In this description the term failure domain is used and this term denotes the boundaries within which a given failure operates. The failure domain includes a number of aspects: physical, temporal, severity, persistence, threshold, etc.(Column 6, lines 31-34)]" as claimed.

Regarding claim 15, Kleinschnitz teaches the method of claim 2 "further including the step of exporting data from a cause field into the second set of aircraft data such

that the second set of aircraft data defines a cause of the technical issue [The craftsperson uses GFR 307 to select 409 the composite failure event identity for which the MIM was sent, and selects the FRU to be replaced from the SFL that is continued in the composite failure event (Column 11, lines 8-11)]" as claimed.

Regarding claim 16, Kleinschnitz teaches the method of claim 2 "further including the step of exporting data from a fix field into the second set of aircraft data such that the second set of aircraft data defines a fix of the technical issue [The craftsperson uses GFR 307 to select 409 the composite failure event identity for which the MIM was sent, and selects the FRU to be replaced from the SFL that is continued in the composite failure event (Column 11, lines 8-11)]" as claimed.

Regarding claim 17, Kleinschnitz teaches the method of claim 1 "further including the step of maintaining the knowledge base for a plurality of aircraft [A plurality of customer equipment 40-42 are illustrated connected to a central maintenance system 1 via corresponding communication links 50-53 (Column 3, lines 12-16)]" as claimed.

Regarding claim 19 Kleinschnitz teaches a computer-implemented method for updating an aircraft-specific knowledge base, See figures 1, 7 and the corresponding portions of Kleinschnitz's specification for this disclosure. In particular, Kleinschnitz teaches "a computer-implemented method for updating an aircraft-specific knowledge base the method comprising the steps of:

– determining whether any reusable solutions of the knowledge base addresses a technical issue regarding an aircraft [In some cases, however, the local expert system 11 is unable to identify the cause of the problem with any certainty (Column 11, lines 30-39)];

– verifying whether an individual has authoring access to the knowledge base [Otherwise it alerts central engineering expertise that human assistance is required];

– receiving authoring input from the individual when none of the reusable solutions addresses the technical issue [When the problem resolution is discovered it is conveyed in the form of new rules and hypotheses to the technical expert system 63 by the engineer (Column 11, lines 54-59)]; and

– generating a new reusable solution based on the authoring input when the individual has authoring access [Figure 7, item 701]" as claimed.

Claim 27 recites the limitations of claim 3, thus is rejected for the same reasons as claim 3.

Claims 28-31 recites the limitations of claims 11-14 in light of claim 3, thus are rejected for the same reasons as claims 11-14.

Regarding claim 32 Kleinschnitz teaches a computer-implemented aircraft servicing system, See figures 1, 7 and the corresponding portions of Kleinschnitz's specification

for this disclosure. In particular, Kleinschnitz teaches "A computer-implemented aircraft servicing system comprising:

- a knowledge base of reusable solutions, wherein the knowledge base is derived from prior communications regarding an aircraft [Figure 1, item 1, Expert system];
- a distributed tool for maintaining the knowledge base in accordance with characterizations of technical issues from individuals in an aircraft manufacturer enterprise [When the problem resolution is discovered it is conveyed in the form of new rules and hypotheses to the technical expert system 63 by the engineer (Column 11, lines 54-59)]; and
- a security model for selectively allocating read and write access to the knowledge base between the individuals in the manufacturer enterprise and individuals in an aircraft operator enterprise [Otherwise it alerts central engineering expertise that human assistance is required (Column 11, lines 46-53)]" as claimed.

Regarding claim 33 Kleinschnitz teaches the servicing system of claim 32 "wherein the distributed tool includes:

- an authoring module enabling storage of reusable solutions to the knowledge base, each reusable solution having an assigned access status [When the problem resolution is discovered it is conveyed in the form of new

rules and hypotheses to the technical expert system 63 by the engineer (Column 11, lines 54-59)]; and

- a search module enabling retrieval of reusable solutions from the knowledge base in accordance with the access statuses

[At that point a transition occurs to permit the embedded expert system process to perform isolation based on information relating to the failure domain. A composite failure event (CFE) is associated with each emerging failure domain and identifies the states that the failure domain has passed through and summarizes what is currently known about the failure domain (Column 6, lines 30-50)];

- said authoring module preventing field service representatives of the manufacturer enterprise and representatives of the operator enterprise from generating reusable solutions[When the problem resolution is discovered it is conveyed in the form of new rules and hypotheses to the technical expert system 63 by the engineer (Column 11, lines 54-59)]" as claimed .

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 4-10, 18, 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleinschnitz.

Claims 4-10 refer to the security validation and authoring access to the knowledge system by authorized individuals.

Kleinschnitz does not expressly teach that the central engineering expertise personnel are authorized updaters of the knowledge base.

Examiner contends that limiting authoring access to the knowledge base or expert system to "experts" was well known in the art at the time of applicant's invention.

At the time of the invention it would have been obvious to a person having ordinary skill in the art to limit authoring access as known in the art and described above to the knowledge system of Kleinschnitz.

The motivation for doing so would have been to keep the expert system knowledge filled with expert knowledge.

Claims 20-26 refer to similar limitations in light of claim 19, thus are rejected for the same reasons as claims 4-10.

Claim 18 is considered to be mere duplication of parts and rendered obvious from the rejection regarding claim 17. The recitation of providing reusable solutions for more than two million parts of the plurality of aircraft is mere duplication of parts over providing an undisclosed amount of supported hardware in Keinschnitz. Examiner states that Applicant has not shown any patentable significance in this apparent scale in size unless Applicant shows a new and unexpected result is produced from the claim as recited.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-Form 892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke Osborne whose telephone number is (571) 272-4027. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on (571) 272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LRO
6/12/05

UYEN LE
PRIMARY EXAMINER